CLAIMS

We claim:

1. A composition for chemical mechanical planarization comprising an aqueous solution of ozone and abrasive particles.

2. A composition as in claim 1 wherein said abrasive particles are selected from the group consisting of alumina, silica, ceria, spinel, zirconia and mixtures thereof.

3. A composition as in claim 1 further comprising at least one additive selected from the group consisting of carbonate, bicarbonate, oxalic acid, formic acid, acetic acid, glycol acids and mixtures thereof.

4. A composition as in claim 1 wherein the concentration of ozone in said aqueous solution is less that at which ozone interactions occur.

5. A composition as in claim 4 wherein said concentration of ozone is less than about 20 parts per million.

6. A composition as in claim 1 further comprising at least one ammonium salt.

7. A composition as in claim 6 wherein said at least one ammonium salt is ammonium carbonate.

8. A method of planarizing a surface by directing ozone gas onto said surface .

9. A method of planarizing a surface by directing onto said surface an aqueous solution containing ozone and causing relative motion of said surface and a polishing pad in contact therewith.

10. A method as in claim 9 further comprising abrasive particles in said aqueous solution.

11. A method as in claim 10 wherein said abrasive particles are selected from the group consisting of alumina, silica, ceria, spinel, zirconia and mixtures thereof.

12. A method as in claim 10 further comprising at least one ammonium salt.

13. A method as in claim 12 wherein said at least one ammonium salt is ammonium carbonate.